SESSION VI

HEALTH EDUCATION

OBJECTIVES: At the end of this lesson, participants will be able to:

- √ state meningococcal disease health education messages
- √ discuss adapting messages to local circumstances

METHODS: Reading, discussion

MATERIALS: Public education materials on meningococcal disease, if available.

PREPARATION:

____ Get examples of local or national public education materials on meningococcal disease.

____ As part of the workshop invitation, ask participants to bring any examples of meningococcal disease health education materials with them.

LEARNING ACTIVITIES 30 minutes

1. Introduction

Explain the topic and the objectives. Point out that information on health education is in Section 4.3 of the *Guidelines*, and that there are sample messages in Annex 2.

2. Discussion of Health Education Messages

a) Ask participants to turn to the health education messages in Annex 2 of their *Technical Guidelines*. Ask them to also open their *Exercise Books* to Exercise 6, and to use the blank space there to make notes on the discussion of the health education messages.

b) Ask participants to turn to the first health education message in Annex 2. Ask volunteers to read each line in the message one line at a time. Discuss each part of the message with the group. Do the same for the second message in Annex 2.

For each message, ask the participants:

- √ Is the message clear to you?
- √ Do you think it would be clear to the community members where you work? If not, how could it be re-phrased?
- √ Are there any recommendations that would be difficult to do by community members? If so, what do you suggest?
- √ In your area, what would be the best ways to get these messages to the public?

3. Local Healt h Education Messages

(Do not do this Learning Activity if there are no local examples available)

a) Display local Health Education posters or handouts.

If any participants brought health education materials, thank them and ask them to show them, and to explain how and where they were used (if there are many, choose several to discuss).

b) Lead a discussion similar to the one above about the local messages. In addition to the questions listed in Learning Activity 2, ask participants to evaluate whether the messages:

- √ are accurate and up to date (consistent with Guidelines or national policy)
- √ the most important messages for the public.

4. Summary of Key Points

Ask a participant to summarize the key points, or briefly summarize them yourself.

SESSION VII

BEING PREPARED FOR AN EPIDEMIC

OBJECTIVES: At the end of the lesson, participants will be able to:

- √ name components of epidemic preparedness
- √ explain measures that may be used to evaluate epidemic preparedness

METHODS: Presentation, discussion, written exercise

MATERIALS: Flip chart paper and pens, scratch paper

PREPARATION:

___ Practice lecture and put transparencies in order.

___ Find out if there are national or local guidelines which assign specific roles and responsibilities for meningococcal disease detection and control to district and health facility level health workers. If there are, compare them to those suggested in Annex 1 of the *Guidelines.* If they differ significantly, prepare a handout of those that apply to the participants and to health workers whom they supervise.

LEARNING ACTIVITIES 1.5 hours

1. Introduction

Explain the topic and the objectives. Explain that the information given in this lesson is also found in Chapter 5 of the *Guidelines on the Detection and Control of Meningococcal Disease*.

2. Lecture - Preparedness

Give a presentation on being prepared for an epidemic of meningococcal disease.

Being Prepared for an Epidemic

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Preparedness Components - 1

- Ensure that the surveillance system can detect epidemic meningococcal disease
- Ensure the ability to get laboratory confirmation
- Identify and address training needs
- Maintain reserve stock of vaccine and supplies *(national level responsibility)*

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Preparedness Components - 2

- Organize an epidemic committee
- Plan logistics and staff needed to respond
- Ensure financial support is available
- Organize vaccination teams
- Make an emergency response plan
- Evaluate epidemic preparedness

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Preparedness

- **Evaluate level of preparedness**
  - *before* an epidemic
    to be ready to detect & respond
  - *during* an epidemic
    so that the response is effective
  - *after* an epidemic
    in order to improve

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Can the Surveillance System Detect an Epidemic of Meningococcal Disease?

- **Routine Reporting & Emergency Notification**
  - Can health workers (HW) recognize meningococcal disease?
  - Do HWs know the case definitions?
  - Do HWs know HOW to report?
  - Do HWs know WHAT to report?
  - Are routine reports complete and on time?
  - Are the weekly attack rates (or threshold number) being monitored?

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- For each of the components of preparedness, there is a series of questions to be answered.
- When public health personnel can answer "Yes" to each of these questions, then they will be well prepared for an epidemic of meningococcal disease.

Can the Surveillance System Detect an Epidemic of Meningococcal Disease?

- **Investigation Team**
  - Have members been identified?
  - Have members been trained or briefed on their duties?
  - Has funding for the investigation been found?
  - Have supplies been provided for?

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For each of the components of preparedness, there is a series of questions to be answered.

When public health personnel can answer "Yes" to each of these questions, then they will be well prepared for an epidemic of meningococcal disease.

Ensure Ability to Get Laboratory Confirmation

- Is a person trained to collect specimens?
- Are supplies for collection & transport available?
- Have laboratories been identified?
  (for examination of CSF, culture, for identification of *N. meningitidis* and for classification by serogroup)
- Have funds been allocated?

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Train Staff in Knowledge and Skills Needed to Detect and Control Epidemic Meningococcal Disease

- Determine staff responsibilities
- Decide who needs to be trained
- Decide what they need to learn to do
- Make a training plan
  - what training is needed before an epidemic?
  - what training will be needed when an epidemic begins?
- Conduct training

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Train Clinical Staff
Before an Epidemic

- Basic epidemiology of meningococcal disease
- How to recognize meningococcal disease
- Case definitions
- How to report suspected cases
- Clinical management

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Train Clinical Staff

At the Start of an Epidemic

- Clinical management
- Record keeping
- How to report / what to report
- Inventory of supplies
- Conducting rapid mass vaccination campaign
- Public education

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Train District Staff
Before an Epidemic

- **Basic epidemiology**
- **Surveillance**
  - monitoring attack rates / threshold number
- **Reporting**

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Train District Staff

At the Start of an Epidemic

- Field investigation
  - Data collection & analysis
- Laboratory confirmation
- Reporting
- Inventory, ordering supplies
- Planning & conducting rapid mass vaccination
- Public education

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Identify & Address Training Needs

- What % of clinical staff are up-to-date?
- Is there a plan to train HWs *before* an epidemic? Is it being done?
- Is there a plan to quickly train HWs at the time of an epidemic?
- Has funding been allocated for training?

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Maintain Reserve Stock of Supplies

- Is there a reserve stock of vaccine?
  If so where is it located? How many doses are there?
- Do district officials know how to request vaccine?
- Is there a stock of materials needed for laboratory confirmation?
- Has funding been found for the reserves?

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Organize Epidemic Committee

- ***Is there a meningococcal disease committee?***

OR

- ***A meningococcal disease sub-group of a crisis or epidemic committee?***

- ***Does the committee meet regularly?***

- ***Are members working to prepare the district for a possible epidemic of meningococcal disease?***

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Plan Staff and Logistics

- Have specific responsibilities been decided?
- Is there a plan for re-assigning staff during an epidemic?
- Is there a plan for enlisting additional personnel (e.g. nursing students)?
- Is there a plan to train volunteers to help?
- Is there a plan for setting up Temporary Treatment Centers?
- Have logistics needs been identified?
- Has funding for staff costs and logistics been allocated?

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Financial Planning

- Have costs related to *preparation* for an epidemic been identified?
- Have costs related to *investigation and confirmation* been identified?
- Have costs related to *response* been identified?
- Has a source of funding been found for each expense?

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Vaccination Campaign

- Have team members been identified?
  - Have they been trained?
- Is the cold-chain prepared?
- Has a source of supplies (except vaccine) been identified?
- Has possible sites been identified?
- Has funding (other than for vaccine purchase) been identified?

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Emergency Response Plan

- Is there an Emergency Response Plan for responding to an epidemic?
- Are all persons and agencies that are mentioned in the plan, aware of the plan?

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Evaluate Epidemic Preparedness

- Has the district's level of preparedness been evaluated?
- If so, were the results of the evaluation acted on?
- Are regular, periodic evaluations scheduled?

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3. Roles and Responsibilities

a) Ask participants to turn to Annex 1 of the *Guidelines* OR to look at the Roles and Responsibilities handout you prepared.

b) Describe the roles and responsibilities of the different levels of the health care system in detecting and controlling meningococcal disease epidemics.

- √ Spend more time on the level at which participants work, and on the level which they supervise.
- √ Briefly mention what they can expect from higher levels.

4. Group Exercise - Refine Emergency Response Plan

a) Ask participants to open their *Guidelines* to Section 5.9 and their *Exercise Books* to the Self-Study Project No. 9.

b) Explain that they will do part of this Project today, in order to clarify how to write an Emergency Response Plan and in order to identify any elements of planning that should be clarified or added. Participants will make a final Emergency Response Plan for their area, *after* the workshop, as one of the Self-Study Projects.

c) Ask participants to work in groups of two or three. Assign each group of participants three of the activities from those listed in the planning matrix in the *Exercise Book* (Group 1 might work on Activities, 1, 2, and 3; Group 2 might work on Activities 4, 5, and 6, and so on - there will be some duplication). Give each group flip chart paper, and ask them to fill in the planning matrix for their own area.

d) As they work, circulate and check to be sure they understand the assignment.

e) When they have finished, lead a discussion about their answers. The purpose of the discussion is to review possible approaches to the emergency response plan and for participants to share creative ideas.

- √ For each activity, write the name of activity and matrix headings at the top of a fresh sheet of flip chart paper (see example for Activity No. 11, below).
- √ Ask *one* of the groups that worked on that activity to report what they listed. Note key words on the flip chart paper. Then ask other groups who worked on that same activity if they have anything *additional* to add (they should not repeat what the first group reported).
- √ For each activity, discuss different approaches that the different groups used.

ACTIVITY NO. 11 "INVENTORY TREATMENT AND VACCINATION SUPPLIES"

Person Responsible/ Alternate	Time Frame	Materials/ Resources Needed	Source	Cost
1) Chief Medical Officer (asks all health facilities to submit inventories) Senior officer at each health facility is responsible for submitting inventory 2) Stores Manager	1) as soon as 1st suspected case is confirmed, and the threshold has been exceeded for 2 weeks 2) every week, during the epidemic	1) list of vaccination supplies 2) list of treatment supplies 3) stationery / stock cards 4) method of communication with health facilities (a) courier (b) telephone	Lists = Meningococcal Disease Guidelines Stationery = in stock Communication = courier will be nursing assistant	1) transport fees for courier 2) for stationery

5. Summary of Key Points

Ask a participant to summarize the key points, or briefly summarize them yourself.

SESSION VIII

WORKSHOP FOLLOW-UP AND SELF STUDY PROJECTS

OBJECTIVE: At the end of the lesson, participants will:

- √ know how to do the self-study projects
- √ have taken and reviewed the post-test

METHODS: Presentation, discussion, written test

MATERIALS: *Technical Guidelines* on the Detection and Control of Meningococcal Disease, *Exercise Book*, schedule for follow-up activities, post-test

PREPARATION:

____ Decide on follow-up activities (i.e., future meetings of participants to discuss/work on Self Study Projects, or scheduled visits to participants as follow-up).

____ Prepare schedule for completion of Self-Study Projects and follow-up activities (e.g., within 3-12 months).

____ Review Self-study Projects.

____ Make one copy of the post-test (identical to pre-test) for each participant.

LEARNING ACTIVITIES 2 hours 45 minutes

1. Introduction

Explain the objectives of this session.

2. Administer the Post- Test

a) Administer the Post-Test. Participants may use their *Guidelines* during the test, it is an "open-book" test.

b) Grade the test while participants are reading the Self Study Exercises (see next Learning Activity).

c) After finishing the next Learning Activity, give correct answers to the test, and answer any questions.

3. Plan for Follow-Up and Self-Study Projects

a) Ask participants to open their *Exercise Books* to the Table of Contents. Point out the list of Self-Study Projects.

b) Tell participants that:

- √ These Projects are an important continuation of this workshop.
- √ As you do them you will practice the skills needed to prepare for and respond to an epidemic of meningococcal disease, and your district will become better prepared.
- √ They are called "Self Study" Projects because you will do them without a facilitator's guidance, back at your place of work. However, you do not have to work on them alone — if possible work with another participant from this workshop, and with other colleagues.

Working with others at your place of work is a good way to share what you learned in this workshop. Try to work with the people who would be involved in responding to an epidemic of meningococcal disease.

- √ The information needed to complete the projects is in the *Guidelines on the Detection and Control of Meningococcal Disease.* Other important information is available in your district. There are not "correct" or "incorrect" answers or solutions to these Projects. However, all solutions should be realistic in terms of time, money and personnel that are available in the district.

- √ There is one Project and in some cases there are follow-up Projects for each of the Preparedness Components that are discussed in Chapter 5 of the *Guidelines.*

- √ There is a logical sequence of preparation and response activities, and the Projects are in that order. However, this sequence is not required. Since different districts will be at different stages of readiness, you can do the exercises in the order that you feel will benefit your area the most.

- √ Try to finish all the Projects in the suggested time frame (pass out and explain the schedule).

- √ After you return to your place of work, carefully read about each of the Projects. Decide whom you will work on them with, and decide on the order in which you will do the Projects. Adapt the suggested schedule.

- √ These are the arrangements for future meetings and follow-up (if any):

_____

_____

_____

_____

c) Ask the participants to read all the Self-Study Projects in the *Exercise Book*. As they do this, grade the Post-Test.

Explain each project and answer any questions participants have.

4. Review Post-Test

Ask participants about their answers to each question. Give the correct answers and answer any questions.

5. Summary

Ask several participants to:

- √ briefly name something new that they learned in this workshop
- √ say what they thought was the most important thing they learned
- √ explain how they will use what they learned when they return to their place of work.

Thank participants for attending the workshop and for their efforts. Remind them that district personnel play a key role in detecting and controlling epidemics of meningococcal disease. The better prepared they are, the more lives they will save if an epidemic of meningococcal disease occurs.

ANNEX

Pre / Post Test - Facilitator Version

The correct answers are given *in italics* after each question. The number of points to be given for each correct answer is given ***[*** *in square brackets* ***]***, just after the answer. There is a total of 10 points for each question, and 100 points for the entire test.

1. a. Write the case-definition for " suspected meningococcal disease" in adults.

   Sudden onset of fever with stiff neck, and/or petechial or purpural rash [5 points].

   b. You may assume that an infant has meningococcal disease if the infant presents with fever and a certain physical sign — what is the sign?

   A bulging fontanelle [5 points].

2. You suspect that a meningococcal disease epidemic has begun in your district.

   a. Whom will you notify? Give title, name, and address.

   Title: _____

   Name: _____

   Address: _____

   _____

b. How will you notify that person? Give the method of communication and how long you think it will take for your message to be received.

Method of communication _____

Time: _____

[Give 2 points for each correct (reasonable) answer.]

3. The population of Sep District is 50,000.

There were 38 cases of meningococcal disease reported in the District last week. What is the weekly attack rate for the District (express your answer as a rate per 100,000 population)

Answer = 76 cases per 100,000 [10 points]

The answer was calculated this way:

Step 1: *100,000 / 50,000 = 2*

Step 2: *2 X 38 = 76*

4. List five activities that should be done to make a district ready to detect and control an epidemic of meningococcal disease.

A correct answer is any five of the preparedness components that are listed at the beginning of Chapter 5 of the Guidelines. The components do not have to be described in the exactly the same words as in the Guidelines and the order does not matter. [2 points each]

5. Fill in the blanks in these statements. All the answers are numbers.

a. Send an investigation team to the area when the meningococcal disease attack rate exceeds __15__ cases / 100,000 persons per week for __1__ week(s). *[2 points for each answer]*

b. Begin a vaccination campaign when meningococcal disease has been confirmed by the laboratory and when the meningococcal disease attack rate exceeds __15__ cases / 100,000 persons per week for __2__ week(s) in a row. *[2 points for each answer]*

c. When there is a neighboring region with a laboratory confirmed epidemic of meningococcal disease, begin a vaccination campaign in your own area when the attack rate exceeds __5__ cases / 100,000 persons per week for 1 week. *[2 points]*

6. What is the weekly age specific attack rate for 5-14 year olds in Sep District?

- √ the total population of the District is 50,000
- √ 5-14 year-olds make up 28% of the total population
- √ there were 22 cases of meningococcal disease in children 5-14 years old in one week.

Answer = 154 [10 points]

The answer was calculated this way:

Step 1: *50,000 X .28 = 14,000*

Step 2: *100,000 / 14,000 = 7.14 (rounded to 7)*

Step 3: *22 cases*

Step 4: *7 X 22 = 154*

7. There is an epidemic of meningococcal disease in your district. You do not have the resources to vaccinate everyone. Whom will you vaccinate?

1) *Vaccinate the age-group that has the highest age-specific attack rates.*

2) *Vaccinate everyone 3 months to 30 years of age.*

3) *Vaccinate children and their parents.*

[Give 10 points for any one of those answers - Give 5 bonus points for the first answer]

8. To respond to an epidemic of meningococcal disease, you have calculated that 50,000 people in your district need to be vaccinated. How many doses of vaccine should you request?

71, 125 doses

The answer was calculated this way:
50,000 X 1.17 (wastage) = 58,500
58,500 X 1.25 (reserve) = 71,125

9. There is an epidemic of meningococcal disease in your area. Different health facilities have different antibiotics available (Tifomycin is long-acting chloramphenicol). Your patients are a 10 year old child and a 25 year old woman, both with a diagnosis of suspected meningococcal disease. For each antibiotic listed, write the dose and the frequency.

A. PATIENT A IS A 7-YEAR-OLD, 20 KG CHILD

Name of Antibiotic	*Route*	*Dose*	*Frequency*	*Duration*
Tifomycin	IM	2.0 g 8 ml	1 dose	1 day, repeat in 24-48 hours if not improved

B. PATIENT B IS A 60 KG ADULT

Name of Antibiotic	*Route*	*Dose*	*Frequency*	*Duration*
Tifomycin	IM	3 g 12 ml	1 dose	1 day, repeat in 24-48 hours if not improved
Penicillin G	IV	3-4 MU	q 4-6 h	At least 4 days

[Give 1 point for each correct dose and frequency]

10. For this question, write a "T" if the statement is true and an "F" if it is false.

[Give 1 point for each correct answer]

a. ____ During an epidemic, pregnant women may be vaccinated with meningococcal vaccine. [True]

b. ____ Markets and other gathering places should be closed during an epidemic of meningococcal disease. [False]

c. ____ Meningococcal disease vaccination may be recorded on a woman's Tetanus Toxoid card. [True]

d. ____ The best specimens to submit for confirmation of meningococcal disease are blood and CSF. [True]

e. ____ Meningococcal septicemia is less common than meningococcal disease, but it responds better to antibiotic therapy. [False]

f. ____ Strict isolation should be observed for patients with suspected meningococcal disease, to prevent further spread of the disease. [False]

g. ____ Tifomycin (long acting chloramphenicol) is the best antibiotic to use during an epidemic of meningococcal disease. [True]

h. ____ Health workers should only report confirmed cases of meningococcal disease, in order to avoid unnecessary panic. [False]

i. ____ Meningococcal vaccine provides only short-term protection to children less than 4 years of age. [True]

j. ____ With correct antibiotic therapy, the mortality rates from meningococcal disease are around 10%. [True]

Name _____

Date _____

PRE AND POST - TEST

Write a brief answer to each question (use key words).

1. a. Write the case-definition for "suspected meningococcal disease" in adults.

   b. You may assume that an infant has meningococcal disease if the infant presents with fever and a certain physical sign — what is the sign?

2. You suspect that a meningococcal disease epidemic has begun in your district.

   a. Whom will you notify? Give title, name, and address.

   Title: _____

   Name: _____

   Address: _____

_____

b. How will you notify that person? Give the method of communication and how long you think it will take for your message to be received.

Method of communication: _____

Time: _____

3. The population of Sep District is 50,000.

There were 38 cases of meningococcal disease reported in the District last week. What is the weekly attack rate for the District (express your answer as a rate per 100,000 population)

4. List five activities that should be done to make a district ready to detect and control an epidemic of meningococcal disease.

5. Fill in the blanks in these statements. All the answers are numbers.

a. Send an investigation team to the area when the meningococcal disease attack rate exceeds ____ cases / 100,000 persons per week for ____ week(s).

b. Begin a vaccination campaign when meningococcal disease has been confirmed by the laboratory and when the meningococcal disease attack rate exceeds _____ cases / 100,000 persons per week for ____ week(s) in a row.

c. When there is a neighboring region with a laboratory confirmed epidemic of meningococcal disease, begin a vaccination campaign in your own area when the attack rate exceeds _____ cases / 100,000 persons per week for 1 week.

6. What is the weekly age specific attack rate for 5-14 year olds in Sep District?

- √ the total population of the District is 50,000
- √ 5-14 year-olds make up 28% of the total population
- √ there were 22 cases of meningococcal disease in children 5-14 years old in one week.

7. There is an epidemic of meningococcal disease in your district. You do not have the resources to vaccinate everyone. Whom will you vaccinate?

8. To respond to an epidemic of meningococcal disease, you have calculated that 50,000 people in your district need to be vaccinated. How many doses of vaccine should you request?

9. There is an epidemic of meningococcal disease in your area. Different health facilities have different antibiotics available (Tifomycin is long-acting chloramphenicol). Your patients are a 10 year old child and a 25 year old woman, both with a diagnosis of suspected meningococcal disease. For each antibiotic listed, write the dose and the frequency.

A. PATIENT A IS A 7-YEAR-OLD, 20 KG CHILD

Name of Antibiotic	*Route*	*Dose*	*Frequency*	*Duration*
Tifomycin	IM			1 dose

B. PATIENT B IS A 60 KG ADULT

Name of Antibiotic	*Route*	*Dose*	*Frequency*	*Duration*
Tifomycin	IM			1 dose
Penicillin G	IV			

10. For this question, write a "T" if the statement is true and an "F" if it is false.

a. ____ During an epidemic, pregnant women may be vaccinated with meningococcal vaccine.

b. ____ Markets and other gathering places should be closed during an epidemic of meningococcal disease.

c. ____ Meningococcal disease vaccination may be recorded on a woman's Tetanus Toxoid card.

d. ____ The best specimens to submit for confirmation of meningococcal disease are blood and CSF.

e. ____ Meningococcal septicemia is less common than meningococcal disease, but it responds better to antibiotic therapy.

f. ____ Strict isolation should be observed for patients with suspected meningococcal disease, to prevent further spread of the disease.

g. ____ Tifomycin (long acting chloramphenicol) is the best antibiotic to use during an epidemic of meningococcal disease.

h. ____ Health workers should only report confirmed cases of meningococcal disease, in order to avoid unnecessary panic.

i. ____ Meningococcal vaccine provides only short-term protection to children less than 4 years of age.

j. ____ With correct antibiotic therapy, the mortality rates from meningococcal disease are around 10%.

NOTES

NOTES